

17 DEC 1964
MEETING

STAT

To our Present:

--

STAT

[redacted] began the meeting with a discussion of the next task in the performance studies. He stated that we intend to continue this work on a long term basis as described earlier by [redacted]

STAT

STAT
STAT

1. [redacted] asked what resolution did you get down to? [redacted] replied 10" to 5". [redacted] stated that we may later use the RA 5C Camera system which will give the fine resolutions DOD is interested in.

STAT

[redacted] You do expect in the future to get down to battlefield resolution?

STAT
STAT

[redacted] Yes, [redacted] then stated that by 1970 the DOD wants to have [redacted] resolution -- this is what is desired but of course may not be possible. [redacted] stated that in the next phase we hope to examine the effect of soon angles, as well as effects of stereo convergence angle.

STAT

STAT

[redacted] What was the purpose of this preliminary experiment?

[redacted] It was based around considerations such as: where are the break-points between the photography and ground resolution.

STAT

[redacted] In the study you didn't vary the ground resolution.

STAT

[redacted] Yes, the ground resolution was varied; there were four different ground resolutions used.

STAT

[redacted] When we were asked to make up the requirements for to be 1970, we were to determine that the intelligence requirements will be for making ground measurements. We came up with an arbitrary list of measurements that would be desirable, particularly Mach I low-level. Now we would like to prove that these things can be done. One of the reasons we are asking such things is that [redacted] wants to know what is the caliber of the type of rifle being used in Viet Nam. To realize that more R&D work is needed.

STAT

STAT

[redacted] We have to get a feel for what is required in determining what the general family of camera configurations should be.

STAT

[redacted] Make a measurement down to [redacted]
[redacted] -- by any method -- to detect this size.

STAT

STAT

[redacted] Are these measurement requirements?

STAT

[redacted] Yes, we need 50 per cent accuracy.

STAT

[redacted] Is photography the proper source for this information?

STAT

[redacted] Presently, photography seems to be the best possible way.

STAT

[redacted] Is it worth the cost of getting it to 1%?

[redacted] Cost-effect analysis is why DD/SDC is involved.

STAT

[redacted] Certain identification can be made at [redacted]
really what you want to solve the problem. You don't know until you get to that point.

STAT

STAT

[redacted] These figures are not measurement accuracy.

STAT

STAT

[redacted] No, but this can be done in general -- relative to identification. [redacted] stated that the PI's tested couldn't tell even at 10% what type of plane was to be identified.

STAT

[redacted] If PI's were used that were trained in identifying aircraft, I think, the results would be better.

STAT

[redacted] This was taken into account, and we are going to give this assignment to the Navy people in Quantico to see how they do.

[redacted] It appears from work done that reasonable answers can be obtained in this fashion. The problem is first to determine what is important and, secondly, what is the relative worth of doing work like this, with all its limitations on either a long-term or short-term basis.

STAT

[redacted] What is the conclusion of this? What is the effect of ground resolution on PI performance?

STAT

[redacted] That can only be answered with the consideration of the limitations of time, etc.

[redacted] I would like to understand these graphs.

STAT

[redacted] All of the graphs are similar, let's take this one.

Distribution or proportions are across many groups to 10 per cent some 30 per cent, mean to median is quite different.

STAT

[redacted] When you plot this distribution what is it?

STAT

[redacted] The frequency disposition or proportions of responses at each data point, where each aircraft has the same weight.

STAT

[redacted] What factors do you think will affect answers?

Most of the PI's were not familiar with these types of aircraft.

[redacted] After you do a number, you would look at it and say it is this or that without analyzing.

STAT

[redacted] The subjects were asked to analyze each one independently.

STAT

[redacted] What is the required resolution size to do technical intelligence?

STAT

[redacted] It wasn't a question of resolution. We asked them to tell us what this aircraft is.

STAT

[redacted] To identify and to analyze is different.

STAT

[redacted] The amount of difference in the tails of the aircraft figure into the difficulty of determining what they are.

[redacted] Is this a combination plot or an absolute plot. How many chances did the PI have of being wrong?

[redacted] There were 16 individual ones and 3 groups.

STAT

[redacted] Ideally you would make up some plan views -- this was not an ideal experiment.

STAT

[redacted] How did they determine the difference between prop and jet

STAT

[redacted] We asked them to take a risk if they were not sure and, if they absolutely did not know, to indicate that.

[redacted] Did you ask questions where there were no aircraft?

STAT

[redacted] Yes, we included a few blanks.

STAT

[redacted]
How did you tell in the fighter aircraft if they were prop or jets? It seems that these were not identified by the engine and there are straight-winged jets. There is some danger in using this data because you could draw some wrong conclusions.

STAT

[redacted]
You have to consider how the PI responds. The results could have been lower than the 50 per cent. This is an area of risk-taking. In this case they were roped together.

As the resolution gets smaller, how willing is the PI to take the risk to try to identify the object?

STAT

[redacted]
You almost have to say look at these pictures and tell us when (at what resolution) you are prepared to make an estimate.

[redacted]
You can't ignore that this is done in the way people do their every day work.

STAT

[redacted]
Would they look at the smaller size first and then go back?

In this test we asked them to look at each one individually.

STAT

[redacted]
If different pictures at N different resolutions. Why didn't you do that this time?

STAT

[redacted]
We did not have enough scenes. [redacted] *

[redacted]
PI's per scene, per resolutions.

STAT

STAT

[redacted]
There is a memory factor when seeing a particular thing at various resolutions.

STAT

[redacted]
Perhaps after these studies we will find that we need to alter in the way people do their day-to-day work.

STAT

[redacted]
It would be very good to put each individual response on IBM cards.

[redacted]
I don't think it's a good idea on this test -- with such small amounts of data. On a larger test it would be more reliable and putting the information on IBM cards would be worthwhile.

STAT

[redacted]
The tests include more than aircraft. How many PI types were used?

[redacted]
About 10 hours per man.

[redacted]
To be investigated next are ~~poor~~ resolutions with 100s and then military installations as the target-type.